

JPRS 77411

18 February 1981

Worldwide Report

NUCLEAR DEVELOPMENT AND PROLIFERATION

No. 83



FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available from Bell & Howell, Old Mansfield Road, Wooster, Ohio 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

18 February 1981

WORLDWIDE REPORT
NUCLEAR DEVELOPMENT AND PROLIFERATION

No. 83

CONTENTS

WORLDWIDE AFFAIRS

Opposition to French Nuclear Tests (David Robie; DAILY TIMES, 6 Jan 81).....	1
Brazil Denies Nuclear Agreement With France (TELAM, 7 Feb 81).....	4
Briefs	
Transfer of Powerplant Ownership	5
Israel-South Africa Nuclear Cooperation	5

ASIA

INTER-ASIAN AFFAIRS

Briefs	
Uranium Shipments	6

AUSTRALIA

Briefs	
Ban on Uranium Mining Supported	7

INDIA

Needs of India's Nuclear Energy Efforts Noted (Pradeep Chaturvedi; PATRIOT, 6 Jan 81).....	8
AEC Chairman Urges Energy Resources Development (PATRIOT, 20 Jan 81).....	10
Heavy Water Project Director Talks to Press (S. Kumar; THE TIMES OF INDIA, 6 Jan 81).....	12

Baroda Heavy Water Plant Begins Operation (PATRIOT, 6 Jan 81).....	15
Labor Trouble Threatens Heavy Water Project (PATRIOT, 6 Jan 81).....	17
Niobium Plant Planned for Meghalaya (PATRIOT, 9 Jan 81).....	18
Briefs	
First Nuclear Reactor Developed	19
Nuclear Fuel Reprocessing Planned	19
JAPAN	
Briefs	
Nuclear Facilities Accidents	20
PEOPLE'S REPUBLIC OF CHINA	
High-Flux Nuclear Reactor Operational (XINHUA, 9 Feb 81).....	21
SOUTH KOREA	
Manpower Shortage in Nuclear Field Reported (THE KOREA TIMES, 7 Feb 81).....	22
Heavy Water Production Process Developed (THE KOREA TIMES, 8 Feb 81).....	23
Development of Fast Breeder Reactors Advocated (Editorial; KYONGHYANG SINMUN, 27 Jan 81).....	24
Briefs	
Nuclear Plant Changes Fuel	26
EAST EUROPE	
CZECHOSLOVAKIA	
CSSR-USSR Negotiations, Nuclear Energy to 1990 Viewed (Josef Freith; RUDE PRAVO, 29 Nov 80).....	27
LATIN AMERICA	
BRAZIL	
Recent Developments in the Nuclear Energy Sector Discussed (LE FIGARO, 1, 8 Jan 81).....	29
French Nuclear Technology, Paulo Nogueira Baptista Interview Uranium Hexafluoride Plant Construction	

Briefs		
First Nuclear Plant		32
NEAR EAST AND NORTH AFRICA		
AFGHANISTAN		
Editorial Criticizes Pakistan's Nuclear Program		
(Editorial; KABUL NEW TIMES, 25 Jan 81).....		33
EGYPT		
Approval of Nonproliferation Treaty Urged		
(Cairo Domestic Service, 7 Feb 81).....		35
WEST EUROPE		
INTERNATIONAL AFFAIRS		
Briefs		
Spain-FRG Nuclear Agreement		36
FINLAND		
For First Time Nuclear Plants Supply Most of Power Needs		
(HELSINGIN SANOMAT, 7 Jan 81).....		37
Nuclear Plants Would Supply Warm Water to Helsinki		
(HELSINGIN SANOMAT, 7 Jan 81).....		38
NETHERLANDS		
Citizens Polled on Stationing of Nuclear Weapons		
(F. A. Hoogendijk; ELSEVIERS MAGAZINE, 6 Dec 80).....		39

OPPOSITION TO FRENCH NUCLEAR TESTS

Blantyre DAILY TIMES in English 6 Jan 81 p 11

[Article by David Robie]

[Text] Women leaders in French Polynesian political and social life have started a campaign aimed at persuading France to end nuclear tests in the Pacific. Said one: "We believe that some of the health problems here and new illnesses are linked to radioactivity." The women are concerned at the apparent escalation of nuclear testing at Mururoa atoll. Gemini News Service reports.

Many leading women in French Polynesian political and social life have embarked on a radical campaign in an attempt to persuade France to halt nuclear testing in the Pacific.

Five of the campaigners launched their demand through Papeete newspapers and state-run television only a few days before the recent conference of Pacific women in the Fiji capital, Suva, adopted strong resolutions on issues ranging from nuclear tests and independence to employment.

"We believe that some of the health problems here, the new illnesses, are linked to radioactivity. There isn't a Tahitian who thinks otherwise," said Ida Bordes-Teariki, president of Pupu Here Ai'a, one of the two autonomist parties in the governing coalition of the French territory.

"Money from the bomb does not interest us," she told the Papeete daily Les Nouvelles. "It is better to be poor and in good health than rich and sick."

Bordes-Teariki and the other women leaders are concerned at the apparent escalation of nuclear testing at Mururoa atoll as France continues its work on the miniaturisation of warheads. A record nine detonations were triggered there last year, according to Sweden's Hagfors military observatory, and the programme has been so heavy this year that this figure is likely to be eclipsed.

Bordes-Teariki and her four closest colleagues were the delegates from Tahiti--comprising the largest South Pacific delegation--to the United Nations world forum for women in Copenhagen last July. They have spearheaded a growing militancy among women opinion leaders in French Polynesia.

Her fellow campaigners include Marie-Therese Danielsson, wife of Swedish anthropologist Bengt of Kon Tiki fame and co-author with her husband of the damning book "Mururoa, Mon Amour." A town councillor of Paea, near Papeete, she represents the Tahitian environmental organisation Ia Ora Te Natura.

The other delegates were school teacher Georgette Taerea, who speaks for the socialist party Ia Mana Te Nunaa; Roseline Courbon of the Layworkers Federation; and school teacher Tepora Escande.

Through the press and television they pushed five tough resolutions adopted by Pacific women at Copenhagen and which provided a springboard for the Suva conference:

1. Immediate creation of a nuclear-free zone comprising the whole Pacific and conclusion of an international treaty forbidding nuclear tests, the use of nuclear submarines and the dumping of nuclear waste. Regular health control of the population in exposed areas by international teams of radiobiologists. Compensation for radiation victims.
2. Acceleration of the decolonisation process in Micronesia, New Caledonia, French Polynesia, Wallis and Futuna, American Samoa, Easter Island, Western New Guinea and East Timor. Economic and, if necessary, military aid for Vanuatu (formerly New Hibredees).
3. A halt to the economic exploitation of land and sea resources such as oil, mineral nodules and fish by foreign and multinational companies. All economic development should be planned and carried out by the Pacific governments and islanders themselves.
4. Protection of all indigenous cultures against commercial exploitation and foreign dominance of education.
5. No more large-scale labour migrations or settlements in the islands by outsiders. Stronger efforts to combat racial discrimination.

Ia Mana Te Nunaa declared that the women of Polynesia were protesting against "a colonial power which has destroyed our culture and language and made us what we are today--individuals ruled by ruthless economic laws steered by the desire for profit.

"We protest in the name of all those who have no voice, who have been abandoned by this new society without mercy, a society where money decides our future, where the existence of a small minority living in luxury constitutes an insult to the majority living in poverty and degradation."

In Suva, the Pacific women's conference--a sub-regional UN summit--adopted a report criticising French "colonialism" in the South Seas, nuclear tests, drugs and alcoholism.

Only Australia and Fiji of the 13 countries represented--including New Zealand--declined to give full support to the report, saying that resolutions had been introduced too late to allow consultations with their governments.

This seemed rather curious in the case of Fiji, considering that on the opening day of the conference, Sir Robert Munroe, president of Fiji's Senate, had called on delegates to condemn nuclear testing and Japanese proposals for dumping nuclear waste in the Pacific.

A section of the report outlined a policy aimed at all Pacific peoples being granted political independence as a "fundamental prerequisite" to making the region nuclear-free.

The report also demanded a ban on all nuclear devices--including those described as "peaceful." An action plan was adopted and a further meeting will be held in 1983 to review progress.

Meanwhile, France's new ambassador to Fiji, Robert Puissant, staunchly defended the nuclear tests programme during a trade union seminar.

He told unionists at Lautoka that France had become a nuclear power to preserve world peace and the French nuclear arsenal was "strictly defensive and dissuasive."

Declaring the tests to be perfectly safe, he said France had conducted 70 nuclear tests over the best part of two decades and underground blasts had been conducted without any radiation seepage.

However, the Fiji Council of Trade Unions was unimpressed with the ambassador's argument and resolved to protest strongly to the French government against nuclear testing in the Pacific and demand a permanent halt to the tests.

The council, one of two Fijian trade union federations, also threatened to boycott all French goods, transport and trade if nuclear tests continue.--GEMINI

CSO: 5100

WORLDWIDE AFFAIRS

BRAZIL DENIES NUCLEAR AGREEMENT WITH FRANCE

PY090140 Buenos Aires TELAM in Spanish 0150 GMT 7 Feb 81

[Text] Rio de Janeiro, 6 Feb (TELAM)--Brazilian President Joao Figueiredo has ruled out the possibility of a nuclear agreement with France while remarking that there will be more intense cooperation between the two countries in that sector. In statements published by the local press today, Figueiredo briefly took stock of the results of his recent visits to France and Portugal.

The president said the French Government is interested in encouraging broad nuclear cooperation with Brazil, but it does not plan to sign any kind of agreement in that sector. He added that in the talks he had with French President Valery Giscard d'Estaing, he asked the latter to intercede with the United States to concentrate more on the North-South dialogue rather than on East-West relations.

Regarding the trip to Portugal, he stated that he had frank and open talks with President Antonio Ramalho Eanes, but he did not disclose what subjects had been brought up.

Figueiredo also reported that he will make an official visit to Colombia from 11 to 13 March and announced that he will probably visit the FRG and Romania this year.

CSO: 5100

WORLDWIDE AFFAIRS

BRIEFS

TRANSFER OF POWERPLANT OWNERSHIP--A document on the transfer of the Loviisa-2 nuclear powerplant to Finnish ownership was signed in Moscow today between the Soviet builders and the Finns. The chairman of the Soviet Atomenergoeksport concern, Vladimir Monakhov, stressed that the division of labor carried out in Loviisa will enable cooperation in the building of nuclear powerplants in the future, too. He referred to the possible new cooperation projects mentioned in the Finnish-Soviet long term program, including a 1,000-megawatt nuclear powerplant. Good chances exist for nuclear power cooperation in third countries too, he said. [Text] [Helsinki Domestic Service in Finnish 1700 GMT 29 Jan 81]

ISRAEL-SOUTH AFRICA NUCLEAR COOPERATION--A secret meeting devoted to military and nuclear collaboration between Israel and South Africa was held recently in Pretoria. A high official of the Israeli Ministry of Defense and a specialist in nuclear missiles were there to represent Israel. [Text] [Paris LE POINT in French 12 Jan 81 p 47]

CSO: 5500

BRIEFS

URANIUM SHIPMENTS--Australian Deputy Prime Minister Doug Anthony in a statement before his departure for home said the outlook for resources trade between Japan and Australia is very encouraging. He said there were few difficulties in the relationship at present, and emphasized that Australia welcomed Japanese investment in its resources development. The restructuring last year of the Ranger uranium project, including Japanese investment, in particular had created a "good atmosphere," Anthony said. During his one-week stay here to attend the sixth Japan-Australia ministerial conference, Anthony had talks with government leaders and representatives of Japan's major power utilities, steel companies and business groups. He said the Japanese steel industry's program to replace fuel oil by coking coal in blast furnaces was almost complete and would require an estimated 10 million tons extra coking coal annually from Australia by 1985. This would provide welcome scope for new coking coal projects and contracts, Anthony said. On uranium, the deputy prime minister stressed the need to conclude a new nuclear safeguards agreement between the two countries if shipments to Japan under new contracts were to begin on time in 1982. Australian Government policy required such an agreement before uranium shipments could take place, he said. Anthony and his party are due to leave for home Tuesday night. [Excerpt] [OW270731 Tokyo KYODO in English 0716 GMT 27 Jan 81]

CSO: 5100

AUSTRALIA

BRIEFS

BAN ON URANIUM MINING SUPPORTED--A meeting of unions affiliated with the Australian Council of Trade Unions in Sydney has backed plans for industrial action against the uranium mining industry. The meeting reviewed plans by the Australian Railways Union to impose selected bans on the uranium industry from the beginning of next month. Railways Union National Secretary Mr Ralph Taylor said that bans would apply to uranium ore and also seek to stop the movement of equipment to the mines. [Text] [OW061439 Melbourne Overseas Service in English 1250 GMT 6 Feb 81]

CSO: 5100

NEEDS OF INDIA'S NUCLEAR ENERGY EFFORTS NOTED

New Delhi PATRIOT in English 6 Jan 81 p 2

[Article by Pradeep Chaturvedi]

[Text]

NUCLEAR power generation has received an impetus during the last one year in spite of environmentalists' stiff opposition. It had been lying low for a long time but the activity of the nuclear industry has once again been geared up to meet possible energy shortages in future. Surprisingly, Britain decided in the beginning of this year (hardly a few months after the Three Mile Island Accident) that it would be adding nuclear capacity at the rate of thousand megawatts a year, 1982 onwards. France, Japan and some of the developing countries were trying to develop higher atomic power generation capacity. Pakistan's intention of developing an Atom Bomb has also been a reason for boost to atomic energy development in this region of the globe. The most important peaceful application, however, has been power generation.

In 1978, seven per cent of the world's electricity was supplied by nuclear power stations located mainly in Europe, Japan, North America and the USSR. Less than two per cent of the electricity in the developing countries is presently supplied by nuclear energy. The installed nuclear capacity with the developing world, in 1980, totals about 3.4 GW. This is likely to

be tripled to 10.4 GW by 1985. At present only three per cent of the electricity is produced in the country from the nuclear source whereas in Japan it contributes for about 12 per cent. By the year 1985, the French expect to derive 80 per cent of their entire electricity through the nuclear source and the Japanese about 17 per cent by that time.

India's first nuclear power reactor went into operation in 1969. At that time it was the first nuclear power station in Asia and one of the largest then built. Subsequently growth of nuclear power has been well behind the schedule, which was at times attributed to political bickering and at other times to lack of self-reliance capability. On an average, the nuclear activities have been lagging behind schedule by about seven years. The Pokhran test in 1974 gave a big boost to nuclear research. Later, when USA refused to supply enriched uranium for the Tarapur Atomic Plant, people in the nation were shocked out of its belief that our atomic energy activities were all self-reliant and they could proceed even without external help.

A number of years have passed and a number of announcements have been made but so

far no alternative fuel for Tarapur Atomic Reactor has been developed. The two options which were widely talked about were (i) plutonium uranium oxide mix; and (ii) heavy enrichment of natural uranium. Almost three years have passed since the then Prime Minister Morarji Deas had announced the feasibility of adopting these. Normally about two years are required for a breakthrough to be perfected into a technological process.

One important consideration was that nuclear scientists in USA had recommended that no such oxide mix (although of possible alternative use) should be experimented in Tarapur type of reactors. The Indian system is very sophisticated and suitable only for enriched uranium. Therefore consideration of this particular option was irrelevant. The other relating to breakthrough in heavy technology could have been extremely useful from the national point of view. It is understood that at one of the Atomic Energy Commission's meetings when a member spoke of the breakthrough, another member said, "what was achieved was only in milligrams and not in kilograms", probably forgetting that a breakthrough could only be in milligrams.

The Atomic Energy Commission, as it is constituted now, has two clear groups functioning. One is related to power generation and allied installations like heavy water plants, fuel processing plant and Atomic Minerals Division.

These activities are mostly related to the hardware technology which could be bought from abroad. The other group of activities are woven round research and development which are carried out at the Bhabha Atomic Centre, Variable Energy Cyclotron, High Altitude Research Laboratory, Nuclear Research Laboratory and the Saha Institute of Nuclear Physics. It is basically in these laboratories and institutions that nuclear know-how of significance is developed. The scientists who are concentrating in these laboratories have to base their knowledge on pure sciences and then transform them into industrially applicable technique and products.

The sagging image of the Atomic Energy Commission during the last few years has been accompanied by a slow down-grading of its activities in the research institutions. BARC has, in the past, done a number of jobs of national industrial importance. The widely publicised dispute between Dr Sethna, Chairman, Atomic Energy Commission and Dr Ramanna, the former Director, BARC, was solved by the Janata Government by shifting Dr Ramanna from BARC. Ever since he was removed, no Director has been appointed for that laboratory. Anyway, Dr Ramanna has returned to BARC. The only notable activity has been the harassment by CBI of senior scientists working with BARC. One such case of Dr Patil was published recently. Such incidents have been creating an unfavourable atmosphere for proper scientific activity.

In view of the international situation, the Government, it is understood, has plans to restore the morale of scientists and induct a large work force in installations under the control of Atomic Energy Commission. It is recommended that the Atomic Energy Commission be vertically split into two groups: one formed as Atomic Power Authority dealing with power generation and the other as Research and Development Group dealing with R & D problems in the field of nuclear sciences. While Dr Sethna might take up the Chairmanship of the Atomic Power Authority a senior nuclear scientist may be given charge of other Research and Development Group. The person who might be given this responsibility has to be of a stature which could inspire confidence in the junior ranks of scientists. One, widely talked about, name is that of Dr R Ramanna. His contribution in the field of nuclear sciences has been widely appreciated and accepted.

The R & D activities at the Atomic Energy Commission need to be properly directed. The atomic energy set-up in India is still rated very high even by international standards. Various achievement have repeatedly proved that Indian scientists have the capacity to deliver the goods. Some measure of link-up between the Research and Development activities of two premier agencies namely the Ministry of Defence and the Atomic Energy Commission, would yield strategic advantage and mutually reinforce the research and application in this field.

This arrangement, however, even if worked out cannot be long lasting. Both jobs require a full-time person. No doubt, in the past, there have been cases where one person had been handling a number of important departments, but times have changed, and the expectations from Defence Research and Development Organisation and from the Atomic Energy Commission are now much more demanding and competitive.

An arrangement to keep both the Atomic Power Authority as well as the Research and Development Group together has to be worked out. It will be a crucial decision to place a suitable person at the top.

CSO: 5100

AEC CHAIRMAN URGES ENERGY RESOURCES DEVELOPMENT

New Delhi PATRIOT in English 20 Jan 81 p 8

[Text] Bombay Jan 19 (UNI) India would have to develop an electrical energy mix based on coal and uranium for the next few decades, in view of its limitations of the hydroelectric potential, Atomic Energy Commission chairman H. N. Sethna said on Monday, reports UNI.

The current oil crisis called for even greater dependence on electricity from coal and uranium, he said adding that India depended on oil for 50 per cent of its commercial energy, mainly in the transport and agricultural sectors.

"Both of these involve in-depth studies of the natural radiation environment," Dr Sethna said while inaugurating the second special symposium on natural radiation environment at the Bhabha Atomic Research Centre at Trombay in North-East Bombay.

Of the commercial energy, Dr Sethna said, oil accounted for 50 per cent, coal 25 per cent and electricity 25 per cent. Of the total generating capacity of nearly 30 megawatts of electricity in India, fossil fuels accounted for nearly 18 megawatts, hydro 11 megawatts and nuclear 0.8 megawatt. The bulk of fossil fuel plants were therefore, based on coal, he said.

Recalling that the interest in research work relating to natural radiation environment was promoted since the inception of the atomic energy programme over three decades ago, Dr Sethna said he was also deeply interested in it. The programme related to "high background areas" of Kerala located on the south-west coast where large deposits of monazite sands were available. Extensive studies were carried out in the region, including a joint project in collaboration with the World Health Organisation.

Correlation

However, considering the dose rates and the population sample size, he said, it was not possible to establish satisfactory correlation between the radiation dose and health effects.

"We are continuing these studies now in collaboration with the Indian Council of Medical Research to see the possible biological effects of high natural background on the human health," he observed.

A laboratory has been established to study the effects at cellular level on a continuing long-term basis, experiments have also been carried out to see effects of high radiation dose on the local flora and fauna.

Dr Sethna said "We have been interested in the radioactive content of coal to compare the overall health effects of the fuel cycles based on uranium and coal." Although the country was endowed with coal deposits, their quality was inferior.

Though the radioactive content of the coal was comparable to the global average, the ash content was very high--for some varieties it was as high as 30 per cent. The population dose per megawatts of electricity produced could therefore be higher from the burning of coal in thermal power stations than from gaseous radioactive emissions from a nuclear power station. A detailed assessment of this problem which would be of great importance in the future planning of energy mix was therefore called for.

A great paradox of modernisation, he said, was that with the increase in production of electricity and consumer goods, new health problems had arisen due to continuous deterioration of the environment. Although chemical pollutants accounted for major deterioration of the environment, we have to be very watchful about the activities that enhanced the natural radiation exposure of man," he said.

CSO: 5100

HEAVY WATER PROJECT DIRECTOR TALKS TO PRESS

Bombay THE TIMES OF INDIA in English 6 Jan 81 p 5

[Article by S. Kumar: "Heavy Water Drips Again From Baroda Plant"]

[Text] Bombay, January 5. The prolonged "birth pangs" of the Baroda heavy water plant seem to have ceased with the ushering in of the New Year.

The plant, which had drawn adverse publicity ever since its commissioning five years ago, managed to regain its prestige on the morning of January 2 when a large contingent of newsmen from Bombay visited it for the first time.

It takes about 10 days before the first drop of heavy water of the desired concentration trickles in after the plant is switched on. This time the plant had taken more than the normal time and the authorities kept their fingers crossed--whether the plant would produce heavy water by the time the journalists visited it. In the early hours of January 2, sufficient amount of heavy hydrogen (deuterium) had accumulated and the staff could "light the burner" for burning it with oxygen to produce heavy water. In the afternoon, when the journalists were taken round, already about eight litres of heavy water had been collected.

Series of Problems

Though the plant was commissioned in May, 1975, heavy water was first produced here only on July 4, 1977. The plant, a scaled-up and revised version of a mini-plant in Maxingarbe in France, was set up at a cost of Rs. 34.35 crores but a series of problems postponed the actual production. The first production could not be sustained for long because of the unsatisfactory performance of a condenser followed by labour problems in Gujarat State Fertiliser Corporation on which the heavy water plant is dependent for synthesis gas. When the plant was about to start again, in August, 1977, a huge explosion and a fire caused extensive damage to it.

Indian engineers revamped the entire plant at a cost of Rs. 1.20 crores. The revamping operations which in certain respects were more intricate than the initial erection, were carried out without any foreign assistance, it is claimed. The plant was recommissioned in January, 1980, but a new problem of high temperature

in the ammonia converter cropped up. However, temporary measures were adopted and production of heavy water continued from July till the last week of October, 1980, when the plant was shut down for replacing the insulation around the converter to overcome the problem of high temperature. The plant resumed production in the New Year.

The French collaboration and the blast in 1977 figured prominently at the press conference addressed by Mr N Srinivasan, project director of the heavy water projects of the department of atomic energy. The scaling up of the French plant by three times was not "unrealistic" in chemical processing and "we could not afford to wait till the French plant grew to our required size," Mr Srinivasan said. Probably, the Baroda plant was a "partial experiment" but this was better than having no plant at all, he said. He parried questions which sought to blame the French for the malfunctioning of the plant. Mr Srinivasan described it as "essentially a problem of experimentation in scaling up rather than of any design deficiency".

The controversial ammonia quench blocks, one of which ruptured leading to the explosion and fire, are not being used in the plant now. The French, however, replaced the quench blocks but on what terms was not known. The report of the high-power committee which inquired into the accident had not been made public. According to Mr Srinivasan, the material of the quench block could have deteriorated and hence it gave way.

Now Efficient

The production of heavy water depends on the amount of synthesis gas supplied by the fertiliser plant, the concentration of deuterium in the gas and the degree of recovery achieved by the plant.

The Baroda plant is now working "very close to the designed efficiency", according to Mr Srinivasan. The concentration of deuterium is now around 110 ppm and 80 per cent of deuterium is recovered from the synthesis gas supplied (now around 800 tonnes per day.) If a fertiliser plant is set to produce 900 tonnes of ammonia per day, it would yield 60 tonnes of synthesis gas per hour which can be used for producing 70 tonnes of heavy water per year.

Preliminary estimates of the cost of production of heavy water in the country show the Baroda heavy water to be the cheapest among them. If the plant's degree of recovery was 60 per cent, a kilo of heavy water cost Rs. 2,000 to 2,500, according to Mr Srinivasan.

Leaks in a chemical plant are inherent. Minor leaks in the sealings of high pressure ball valves still exist but the engineers are confident of controlling them.

Only one part of heavy water is available from 7,000 parts of ordinary water and their separation is very difficult because both are chemically same and slightly different only physically.

That the heavy water is collected in droplets in such a gigantic structure which has 2,200 tonnes of equipment, 1700 tonnes of structural steel, 2,650 tonnes of tower equipment and piping valves and fittings of 750 tonnes is to be only seen to be believed.

Before a drop of heavy water falls in the collecting container, the gas mixture and other inputs pass through pipes whose total length is about 30 km, and their maximum and minimum temperature vary from minus 25 degree C to 1100 degree C at a pressure of 650 atmospheres. There are about 3,000 high pressure joints and about 15,000 medium and low pressure joints. The maximum height of one of the towers is 54 metres and the diameters of one equipment is 3.1 m.

The revamping by Indian engineers is said to have resulted in a saving of about Rs. 10 lakhs in foreign exchange. Normally, two experts are invited from France and their services would have been required for 700 days. Their daily allowance of Rs. 300 per day and their monthly salary have to be paid by India in French currency.

The department of atomic energy has drawn up a plan which envisages the setting up of three heavy water plants in the immediate future and another seven in due course, in addition to the existing five plants. This would help produce cumulatively 13,000 tonnes of heavy water by 2000 A.D. by which time the department is aiming at producing 10,000 Mw of nuclear power.

Among the proposed plants, the first two with an installed capacity of 90 tonnes of heavy water per year would be associated with the Thal fertiliser plant in Maharashtra and the Hazira plant in Gujarat. The third one, a duplication of the Kota plant in Rajasthan, with a capacity of 200 tonnes, will be set up at a site to be finalised near a coal-mine to meet the requirement of less expensive steam.

A pilot plant will be set up in the next six months to study the possibility of transferring deuterium from water to ammonia. Here only water will be required as a feed for the plant and the dependence on fertiliser plants would be reduced. Laboratory experiments had already proved the feasibility of such a plant. Meanwhile, experimental work is also in progress to evolve a more elegant method of transferring deuterium from water to hydrogen.

In two or three years, the design for a heavy water plant, independent of fertiliser plant, using ammonia-hydrogen exchange process would be well established and all the new seven plants would either adopt the hydrogen sulphide-water process as in Kota or the ammonia-hydrogen exchange process.

Though the concentration of heavy water is less than 99.2 per cent as required, they could be upgraded in smaller units which are in abundance in the country. Now, the concentration is more or less standardised at 80 per cent in Tuticorin as also in the Baroda plant.

BARODA HEAVY WATER PLANT BEGINS OPERATION

New Delhi PATRIOT in English 6 Jan 81 pp 1, 7

[Text] Bombay, Jan 5--The Rs 34.35 crore heavy water plant at Baroda has gone into production after five years of 'sickness' and Mr N Srinivasan, Project Director holds out the hope that production will continue on a sustained basis.

Mr Srinivasan told visiting newsmen from Bombay today that the Baroda plant was now running as efficiently as the one at Tuticorin, which has similar ammonia-hydrogen exchange monothermal process. The rated capacity of the plant is 67.2 tonnes a year. Designed by Gelpra, a consortium of French and Swiss companies, the plant has been scaled up and redesigned.

The Indian version of the plant set up at Mazingarbe, France is based on the same process except that, the Nialal enrichment section which in the French plant was based on ammonia distillation was changed to ammonia-hydrogen exchange process, so far as the preliminary enrichment section is concerned.

While disclosing that the interruption of production has led to a loss of about Rs 12 crore Mr Srinivasan refused to yield to persistent questions raised by the newsmen and did not reveal the quantity of heavy water produced at the Baroda plant saying that, the information was not even given to Parliament. [as published] He also refused to disclose as to when the plant could reach its full capacity nor would he say what were the findings of the probe held in the explosion at the Baroda plant.

He said India needs about 13,000 tonnes of heavy water to meet the installed atomic power capacity target of 10,000 MWs during the next two decades.

Ten more heavy water plants are required, besides the present five to meet the long-term requirements.

Three new plants have already been proposed, Dr N Srinivasan said.

The first plant is proposed to be set up at Thal-Vaishet in Maharashtra and the second at Hazira in Gujarat, both associated with giant fertiliser projects. The third will be located near a coal mine to meet the requirement of less expensive steam. The location is still to be finalised.

Dr. Srinivasan said the plants at Thal-Vaishet and Hazira will be generally based on the design of the Tuticorin project in Tamilnadu and will have provisions for

change-over to a position of non-dependence on the fertilizer plant for the synthesis gas supply.

India has five heavy water plants based on different processes of manufacture. The first is at Nangal in Punjab with a capacity of 15 tonnes commissioned in 1962. The plant is based on distillation of hydrogen obtained from electrolysis of water, Dr Srinivasan said.

The plants at Baroda and Tuticorin have a 67 and 71 tonne capacity respectively. Both are based on the ammonia-hydrogen mono-thermal exchange process.

The Talchar plant in Orissa, now being tested, has a 62 tonne capacity and is based on the bi-thermal ammonia-hydrogen exchange process.

All these plants are dependent on fertilizer plants for the supply of synthesis gas, from which the deuterium content is removed and the synthesis gas is returned to the fertilizer plant.

The plant at Kota in Rajasthan with a 100 tonne capacity, is based on the hydrogen sulphide water exchange process and is not dependent on fertilizer plants for supply of synthesis gas.

Dr Srinivasan said experience had shown that for a long-term heavy water programme, dependence on fertilizer plants had to be eliminated. This was because the largest ammonia plant, with a 1,250 tonne capacity of ammonia a day, could produce only 85 tonnes of heavy water a year. The hydrogen-sulphide water exchange process adopted at the Kota plant was, therefore, commendable.

He said laboratory work had already been completed to establish the feasibility of transferring deuterium from water to ammonia and a pilot plant for the process was proposed to be set up soon.

The design for a heavy water plant independent of fertilizer plant, using the ammonia-hydrogen exchange process, would be established in two to three years and all the seven new plants would be independent of the ammonia-hydrogen exchange process or the hydrogen-sulphide water exchange process.

Experimental work was also in progress on a more elegant method of transferring deuterium from water to hydrogen, he added.

CSO: 5100

LABOR TROUBLE THREATENS HEAVY WATER PROJECT

New Delhi PATRIOT in English 6 Jan 81 p 4

[Text]

WORKERS of the heavy water project here have threatened to go on an indefinite strike on any day after 14 January, if their demand for ex-gratia payment and a 20 per cent bonus for 1980-81 was not granted.

The Bhari Pani Kamgar Sangh, a representative union of the workers, has submitted a memorandum to Atomic Energy Commission Chairman H N Sethna requesting him to use his good offices to resolve the dispute.

A spokesman of the management said that, though the Bonus Act of 1965 was not applicable to departmental industrial units, a four per cent ex-gratia payment was offered to the workers "as a gesture of goodwill" this year. A productivity linked bonus scheme was also offered to the workers from next year.

The plant, employing about 340 workers, resumed normal production recently.

The heavy water plant here has resumed production on "a sustained basis" after a major mishap in December 1977. "We are commercial today. The plant is working very close to design efficiency," Project Director of the Plant Dr N Srinivasan, who took over in July told a visiting team of Bombay newsmen.

The 67 tonne annual capacity plant of the Atomic Energy Department, commissioned in 1975 has been revamped at an estimated cost of Rs 12 crore.

"It is a matter of pride for us that the revamping activities, which in certain respects were more intricate than the initial erection of the plant, were carried out by our own personnel

without any foreign assistance," Dr Srinivasan said.

The December 1977 mishap resulted in an estimated production loss of 10 crore, Dr Srinivasan said. The cost of commercial production of heavy water which is used as a moderator in nuclear power reactors using natural uranium as fuel, is Rs 2,000 to Rs 2,500 per kilo at a lower efficiency of 60 per cent capacity utilisation.

The plant, based on the ammonia-hydrogen mono-thermal process, has been designed and supplied by Gelpira, a consortium of two French companies, and one Swiss firm. The source of hydrogen is ammonia synthesis gas supplied by the Gujarat State Fertiliser Corporation.

The plant has had to face a number of hurdles during the last five years resulting in production losses.

Heavy water was produced for the first time on 4 July, 1977, Dr Srinivasan said.

But production could not be sustained due to labour trouble in the plant of the Gujarat State Fertiliser Corporation, which supplied the gas. A leakage also developed on the ammonia condenser in the catalyst recuperation section.

NIOBIUM PLANT PLANNED FOR MEGHALAYA

New Delhi PATRIOT in English 9 Jan 81 p 5

[Text] Shillong, Jan 8 (UNI)--For the first time in the country niobium, a vital metal used in nuclear reactors, will be produced in Meghalaya.

The rare and costly metal is being imported at present.

A "pyrochlore concentration" plant will be set up in Sung villey in Jaintia Hills district to produce niobium, official sources told UNI.

The sources said though pyrochlore, the niobium bearing mineral was available in other parts of the country, commercial production would be taken up for the first time in Meghalaya.

The project reports for the plant estimated to cost around one crore, was awaited from the Atomic Minerals Division, Hyderabad. The project was expected to go on stream by 1982-83, the sources said.

The plant is expected to produce about one thousand kilogram of niobium concentrates a year. The world's leading producers of niobium now are Canada, Nigeria and Brazil.

Pyrochlore, the niobium bearing mineral was available in sizable quantity at a few places in Meghalaya.

Niobium is used in nuclear reactors as sheath because of its superior resistance to corrosion and ability to withstand enormous heat produced in atomic reactors.

Tantalum, yet another rare metal, that occurs along with niobium had also been found in Meghalaya. The quantity is however negligible.

CSO: 5100

INDIA

BRIEFS

FIRST NUCLEAR REACTOR DEVELOPED--Beijing, 3 Feb (XINHUA)--The Bhabha atomic research centre of India has designed and developed its first nuclear reactor vessel called Calandria, according to a report from New Delhi quoting the Indian paper STATESMAN. The paper said the Calandria is the heart of the nuclear reactor built for R-5 (research) project at Barc. It was designed by its reactor engineering division and made by the centre's workshop. The R-5 reactor is a 100mw thermal research reactor. Many new techniques have gone into the development of Calandria. The Calandria is made from extra-low-carbon stainless steel plates. The main shell is 3,750 mm in diameter. The height of the Calandria is 6,700 mm, the paper added. [Text] [OWO31224 Beijing XINHUA in English 1215 GMT 3 Feb 81]

NUCLEAR FUEL REPROCESSING PLANNED--India is working on a plan to reprocess the spent fuel from the Tarapore and Rajasthan atomic power stations for conversion into plutonium. According to a nuclear scientist of the Bhabha atomic research center, the black plutonium derived can possibly be considered for use as an alternative fuel for enriched uranium. He said the plutonium thus extracted would be adequate for both the reactors at Tarapore going on forever. [Text] [BK060316 Delhi Domestic Service in English 0240 GMT 6 Feb 81]

CSO: 5100

BRIEFS

NUCLEAR FACILITIES ACCIDENTS--Tokyo, 7 Feb (KYODO)--A small fire at the plutonium processing plant in Tokaimura, Ibaraki Prefecture, of the Power Reactor and Nuclear Fuel Development Corporation Friday forced the evacuation of workers at the plant. Officials of the corporation said that sparks from a welding machine set fire to a paper to remove radioactivity at around 4:30 pm, but the fire was extinguished after burning several papers. They said the fire alarm in the room where the fire occurred sounded and 86 workers in the room evacuated. A check later showed that there was no radioactivity leakage, the officials said. Work was being conducted at the time in the No 2 development room of the plutonium fuel development facility to attach a belt to the ceiling of the globe box for forming fuel pellets. In another accident Friday, steam was discovered leaking from a pipe in the adjoining nuclear fuel reprocessing plant. The reprocessing plant had gone into full operation on January 17. Immediately after full-scale operation was started, however, the jet pump of the fuel melting furnace broke down. Another accident occurred on February 4 in the plutonium extracting process, forcing suspension of operation at the plant for a checkup. As a result of Friday's accident, operation at the plant was suspended again. [Text] [OW070038 Tokyo KYODO in English 0009 GMT 7 Feb 81]

CSO: 5100

HIGH-FLUX NUCLEAR REACTOR OPERATIONAL

OWO91218 Beijing XINHUA in English 1209 GMT 9 Feb 81

[Excerpt] Chengdu, 9 Feb (XINHUA)--China's first large high-flux test and research atomic reactor has gone into high-power operation in southwest China. Operation shows that the design is satisfactory, all major parameters meet the prescribed standards, and the installation is safe. "China is now able to design, manufacture and build nuclear power stations independently," an official in charge of the project said.

The new reactor was designed by the Southwest China Reactor Engineering Research and Designing Institute under the Second Ministry of Machine Building. China started studying atomic reactors around 20 years ago. Chinese scientists and engineers have carried on extensive research into various types of reactors. The latest reactor has a thermal power of 125,000 kilowatts, a maximum thermal neutron flux of 6.2 times ten neutrons per square centimeter second to the fourteenth power, and a maximum fast neutron flux of 5.7 times ten neutrons per square centimeter second to the 14th power. "A few industrially advanced countries can now make large, high neutron flux reactors of this kind," the official noted. It is indispensable in research for the independent development of nuclear power in any country, he declared. "The new reactor is of great importance to China's study, designing and construction of nuclear power stations and continued development of atomic energy." The reactor can be used for different purposes, from testing of the effects of neutrons on materials and engineering projects to production of radioactive isotopes. Precautions have been taken to protect the operators, local inhabitants and the environment.

CSO: 5100

MANPOWER SHORTAGE IN NUCLEAR FIELD REPORTED

NKD90329 Seoul THE KOREA TIMES in English 7 Feb 81 p 7

[Text] The nation is facing an acute shortage of the technical manpower which will be needed for the full-fledged development of nuclear power. According to statistics compiled by the Korea Resources Research Institute (Kerri), the technical manpower the nation provided in 1979 stood at 988, far short of the proper manpower demand of 3,340. The 989 break down to 98 scientists, 592 engineers and 299 licensed skilled workers. To put the nuclear power development project onto the right trajectory, Kerri said, the nation demanded 330 scientists, 2,000 engineers and 1,010 skilled workers in 1979. The atomic power development project would need 6,190 technical manpower this year, 17,665 in 1986 and 27,935 in 1991, Kerri asserted.

The state-invested institute lashed out at the "easy-going dependence" on foreign technology in developing nuclear power. Kerri called on the government to make "drastic investments" in improving domestic technology for atomic power development. It also pointed out that the nation had failed to study the utilization of local fuels including low-quality uranium. This country has been "too passive to increase its ability" of producing power equipment and facilities, it was pinpointed.

The energy-research body pointed out that the resource-poor country had accented the development of atomic power to help ease the hefty dependence on oil. Now operational is the nation's first nuclear power plant with a rated generating capacity of 587,000 kilowatts. Six more nuclear power plants are under construction. By 1991, a total of 12 atomic power stations will go into commercial operation to produce 10,116,000 kilowatts. They will then provide 36 percent of all electricity to be generated in this country, as against the present 6 percent.

CSO: 5100

HEAVY WATER PRODUCTION PROCESS DEVELOPED

SK090448 Seoul THE KOREA TIMES in English 8 Feb 81 p 5

[Text] A research team at the chemical process laboratory at the Korea Institute of Science and Technology (KIST) has developed an electrocatalytic process for the production of heavy water, which is essential to nuclear fission reactors, based on natural uranium and to nuclear fusion research.

The team led by Dr C.K. Yun, who writes the weekly column "Tweedledoo" in the KOREA TIMES, succeeded in obtaining about 0.5 liter of product containing 0.2 percent heavy water in the first series of test operations at the laboratory facility. The concentration is about 13 times greater than that in natural water.

Heavy water is recovered as a byproduct of hydrogen producing by concentrating deuterium in the electrocatalytic process. It is non-polluting and the manufacturing cost is very low. Since the recovery yield is high and the equipment size is small, it is ideal for manufacture on a small scale. This contrasts with the gigantic facilities abroad.

The main purpose of the present runs has been to demonstrate the technical feasibility of manufacturing heavy water in Korea. The interdisciplinary group comprising the areas of process, catalyst and electrochemistry belong to the Department of Chemical Engineering of KIST.

When the first step of development is complete, the team will add two more stages to the present system, which will allow production of 99.8 percent pure heavy water. The next step is to install a heavy water module in each of the existing hydrogen facilities in Korea to recover a total of 0.2 tons of heavy water and supply it to various research laboratories at low cost. It also aims, in the longrange, at realizing the hydrogen economy rather than heavy water itself. For instance, it is possible to recover heavy water as a byproduct and supply it to fission or fusion reactors when the peak of electricity is stored and utilized by a combination of an electrolyser-fuel cell or when the conversion of solar energy into hydrogen is practiced on a commercial scale. As part of such an effort, the electrochemistry team at KIST previously developed a semiconducting electrode for electrochemical conversion of solar energy, fabricated a hydrogen generator based on it, and demonstrated its operation successfully.

Dr Yun said, "The catalyst and the electrolyser used in the present heavy water unit are similar to those being developed in Canada and the United States."

DEVELOPMENT OF FAST BREEDER REACTORS ADVOCATED

SK310800 Seoul KYONGHYANG SINMUN in Korean 27 Jan 81 p 2

[Editorial: "We Urge Resolute Development of Nuclear Power Generation"]

[Excerpt] We should construct fast breeder reactors as soon as possible, which the United States, the Soviet Union and France are utilizing for military purposes. The necessity for constructing fast breeder reactors is clearly noted in "The Plan for Domestic Production of Nuclear Fuel," a report prepared by the Korea Institute of Science and Technology (KIST) with the help of the nation's nuclear energy specialists.

In view of the partial operation of several nuclear reactors constructed at Kori and Wolsong in the 1970's with massive government investment, we can say that the nation has already entered the age of nuclear power. However, those reactors are either light or heavy water reactors which, as it were, are basic ones for industrialization.

A light water reactor costs less to construct as it is small in size. However, there are some disadvantages. They are: enriched uranium is hard to obtain; it has to be out of operation for some time almost every year while its spent fuel is replaced; and fuel replacement is subject to supervision by the International Atomic Energy Agency.

A fast breeder reactor, however, is an ideal one from which we can obtain electricity and at the same time get new nuclear fuel. The new fuel thus produced breeds more fuel than is supplied in the first place. This is the case with plutonium.

As is well known, the most universal nuclear fuel is U-235, which is found in natural uranium at a proportion of merely 0.7 percent. The remaining 99.3 percent is U-238 which cannot be directly used as fuel. However, when its atoms are made to collide with a neutron, it triggers a chain reaction resulting in the production of plutonium, a product of nuclear fission. This is why construction of a fast breeder reactor makes it possible to obtain more powerful energy at a low cost.

The problem, however, is that the nuclear powers such as the United States and the Soviet Union have strongly opposed nonnuclear countries from building uranium reprocessing facilities because reprocessed uranium can be used for production of horrible nuclear weaponry.

Even so, we believe that the great powers cannot totally and forever obstruct such resource-poor countries like Korea from constructing specific, essential facilities such as fast breeder reactors. In other words, we must point out that it could be an extremely unwarranted concern for our friends to exhibit their all-too sensitive allergic reaction to the question of Korea's nuclear reprocessing facilities because Korea, which has only a limited amount of coal, cannot have the luxury of flirting with any ideas other than the "peaceful use of nuclear energy."

As noted in the report prepared by the KIST, Korea should construct a total of 110 reactors by the year 2020 at a cost of \$100 billion if it is to overcome a severe energy shortage.

So, to keep construction costs down while expecting as much power generation capacity as possible, we believe that by the start of the next decade at the latest we should start developing fast breeder reactors, which makes it possible to recycle spent fuel, or nuclear fusion reactors, which are called "the dream reactors."

To achieve this far-reaching goal it is inevitable that we accumulate our own advanced technology. The fuel cycle of uranium--from mining, to purification, to enrichment, to fabrication, to heat removal, to reprocessing and finally to waste treatment--requires advanced technology. This is impossible without government assistance.

Whether for "peaceful purposes" or "military purposes," our future--whether we will become a strong or a weak nation--depends on how well we make use of nuclear energy or "the third fire." This being the case, we believe it is only a natural conclusion that our nation must devote all-out efforts to development of nuclear energy.

CSO: 5100

SOUTH KOREA

BRIEFS

NUCLEAR PLANT CHANGES FUEL--Seoul, 31 Jan (YONHAP)--Korea's nuclear power plant No 1 will suspend operations for 75 days beginning Saturday to change its fuel and undergo repairs. Every year the plant is required to change one-third of its fuel. The state-run Korea Electric Co said Saturday that about 16 tons of nuclear fuel will be changed this time. [Text] [SK310130 Seoul YONHAP in English 0045 GMT 31 Jan 81]

CSO: 5100

CSSR-USSR NEGOTIATIONS, NUCLEAR ENERGY TO 1990 VIEWED

Prague RUDE PRAVO in Czech 29 Nov 80 p 1

[Report from Moscow on 28 November by Czechoslovak Press Bureau reporter Josef Fraith]

[Text] The signing of the final protocol on Friday concluded negotiations between delegates of the governments of the CSSR and the USSR—Deputy Premier of the CSSR government, Josef Simon and Deputy Premier of the Council of Ministers of the USSR, Vladimir Novikov—regarding implementation of the program of cooperation between both countries in the development of nuclear energy in the CSSR through 1990.

The government delegates dealt with the entire scope of problems connected with implementation of the nuclear program in the CSSR, from problems encountered in development, research and production of nuclear installations, construction and utilization of capacities through scientific and technical cooperation and co-laboration of state control organs. They further considered the specifics of implementation of Soviet-Czechoslovak agreements regarding the construction of nuclear power plants in the CSSR and stated with satisfaction that the V 1 nuclear power plant at Jaslovske Bohunice, with an output of 880 megawatts, which was activated in May of this year, operates reliably and has already produced over 5 billion kilowatthours of electricity. Construction of the V 2 nuclear facility in Jaslovske Bohunice and in Dukovany is in full swing.

The parties agreed to form a centralized group of Soviet specialists in Czechoslovakia who will provide technical assistance in the construction and operation of the V 1 and V 2 nuclear power plants at Jaslovske Bohunice and, also at Dukovany and Mochovce. The intergovernmental agreement regarding cooperation in the construction of a nuclear power plant at Mochovce in southern Slovakia was signed on Thursday. It involves a power plant with an output of 1,760 megawatts with four VVER 440 type reactors.

In discussions, cooperation in the construction of a Czechoslovak nuclear power plant with VVER 1000 reactors (with an output of 1,000 megawatts) at Malovice in southern Bohemia, was also negotiated.

The objective pursued by government delegates of both countries is to secure the specific implementation of the program for construction of nuclear capacities in Czechoslovakia, which was signed in June by the premiers of both governments. Comrade Josef Simon told a reporter of the Czechoslovak Press Agency after the conclusion of the Moscow negotiations. At their first work meeting, both delegates dealt with the entire set of problems regarding the Czechoslovak nuclear program which can be compiled into three basic stages: continuous progress of the construction of nuclear facilities at Jaslovske Bohunice involving the V 2 power plant and Dukovany; preparations for construction of additional nuclear power plants in Czechoslovakia, i.e., at Mochovce and Malovice and, finally, problems of cooperation and specialization in the production of nuclear capacities and acquisition of requisite capability for the production of Type VVER 1000 nuclear reactors. They also discussed extensive international cooperation by CEMA member countries.

Comrade Josef Simon remarked further that, under Czechoslovak conditions, nuclear energy will have to provide a decisive share of the increments in the production of electric energy in the next five-year plan and practically all of the increments in subsequent years. From this viewpoint, the current negotiations with the Soviet Union are of extraordinary importance and have also been very fruitful. The intergovernmental agreement regarding cooperation in the construction of the nuclear power plant at Mochovce in southern Slovakia launches the next stage of cooperation. The first unit at Mochovce will be activated in 1986.

At the same time we agreed--said J. Simon further--on preparations for the next qualitatively new stage of construction of nuclear facilities in Czechoslovakia: This involves the first Czechoslovak nuclear power plant with reactors having an output of 1,000 megawatts, which is to be built at Malovice in southern Bohemia. The agreement outline is complete and after approval by the CSSR government we should sign it at our next meeting. We also had an opportunity to visit the institute doing the main design and planning. All the technical aspects are now the requisite capability to produce 1,000-megawatt units and make preparations for the construction of the Malovice facility, because the Czechoslovak economy is in dire need of electricity produced by nuclear power plants.

8204

CSO: 5100

RECENT DEVELOPMENTS IN THE NUCLEAR ENERGY SECTOR DISCUSSED

French Nuclear Technology

Paris LE FIGARO in French 1 Jan 81 p 5

[Interview with Paulo Nogueira Baptista, president of NUCLEBRAS (Brazilian Nuclear Corporations), by Irene Jarry; date and place not given]

[Text] In 1975, Brazil launched a vast nuclear energy program which, according to the terms of a contract signed with the FRG, provided for construction of eight power plants and one reprocessing plant. At present, "Angra I" and "Angra II" are being built; and credits have been released for the construction of "Angra III." However, the German contract is not exclusive. In an interview granted to us by Paulo Nogueira Baptista, president of NUCLEBRAS, the state organization responsible for Brazil's nuclear policy, brought up the possibility of nuclear cooperation with France.

QUESTION: Mr President, you have a very ambitious nuclear program. To what extent are you calling upon foreign technology?

ANSWER: Our program is, in fact, very large as it calls for the construction of eight 1,300-watt power plants; and we have decided to call upon foreign technology. That is why we signed a very important agreement with Germany. But this is not an exclusive agreement. There are sectors in which we can cooperate with other countries. That is the particular case of France. As you were able to observe on the Pocos de Caldas site, we have the collaboration of the French Pechiney-Ugine-Kuhlman (PUK) uranium cycling company for the engineering of mining exploitation and the uranium processing plant.

We are in the process of concluding negotiations. They are complete from the commercial standpoint; what is left now is a political matter, as we need government approval for the use of French technology in the production of UF_6 (uranium hexafluoride). I think that there are still areas in which we can cooperate. For example, France is in a very advanced position in the sector of reprocessing nuclear wastes. It also holds a leadership position as regards fast breeder reactors, and I feel that in the future we may be able to do something together.

QUESTION: Is not this cooperation in danger of being hampered by the delay in implementation of the nuclear program?

ANSWER: You are right; the program is behind schedule, if you look only at the construction of the first two power plants. We have a delay there that is purely technical of about 2½ to 3 years but one which does not affect the construction of other power plants.

On the other hand, in the fuel cycle sector everything is going quite well. We have made extraordinary progress from the ore standpoint. Having started with a reserve of 11,000 tons, we now have 215,000 tons; and all the time frames of the fuel cycling plants are being adhered to. What is more, the heavy equipment manufacturing plant is already in operation. On the one hand, then, the program is behind schedule; however, on the other hand, it is ahead of schedule.

QUESTION: Your nuclear program is ambitious; that of your neighbor, Argentina, is also ambitious. After having been adversaries for a long time, the two countries have just signed agreements, one of which deals with nuclear energy. Argentina, like Brazil, does not intend to sign the nonproliferation treaty. This has caused Jimmy Carter to express his concern over this agreement which makes Brazil and Argentina a great nuclear power in Latin America. What do you think about his concern?

ANSWER: In the first place, I feel that it is wrong to speak of the rivalry between Argentina and Brazil. The Argentine and Brazilian nuclear programs are very clear. They result from the needs of each country. This is not a question of programs born of rivalries or emulation. For Brazil, the program is based on the need to have an alternative source of electricity production.

As for American concerns, I feel that they are completely outdated. For example, Brazil signed the Tlatelolco Treaty which, from the "nonproliferation" point of view is much clearer than the Nuclear Nonproliferation Treaty which, moreover, has been circumvented by the Americans who have no respect for it. In fact, the basic mechanism of the Nuclear Nonproliferation Treaty is a formula according to which the nuclear countries agree to disarm themselves from the nuclear standpoint and the nonnuclear countries for their part agree not to arm themselves with nuclear weapons. However, on the other hand, there is a cooperation agreement for the development of nuclear energy, with safeguard clauses. The policy of the United States is a policy of refusal, of negation, even if there are safeguards.

QUESTION: The Americans seem to have engaged in blackmail vis-a-vis Germany by threatening to cut off uranium shipments if the contracts with Brazil are not revised. What exactly is the story on this?

ANSWER: I was not aware of that American initiative. In any event, the Germans now have the capability of enriching uranium and if they need uranium we can supply it to them. No, it is not a question of revising contracts.

QUESTION: As regards this selfsame uranium, geologists say that Brazil's reserves are fabulous. Once national needs are satisfied, does Brazil envisage some form of cooperation for export?

ANSWER: That is possible. That is quite possible. I feel that once our needs are satisfied, it is normal to envisage the possibility of export within the framework

of cooperation programs, obviously. I do not think that Brazil will be interested in export solely on commercial bases but within the framework of broader cooperation.

QUESTION: Mr President, if you are satisfied with your cooperation with France, can we expect an expansion of it?

ANSWER: We are very pleased with our relations with the PUK group. As for expanding our cooperation, I hope so, yes, very soon, with regard to UF_6 . We can also, for example, discuss the question of radioactive wastes. Yes, there are many things to be done. We need a little time, but I am an optimist. Our relations with France are developing well. I see no reason why they will not improve even more.

Uranium Hexafluoride Plant Construction

Paris LE FIGARO in French 8 Jan 81 p 9

[Text] The PUK uranium company has just signed a contract for the transfer of technology with NUCLEBRAS, the Brazilian state company, for the construction of a uranium fluorination plant. This accord, amounting to about 43 million francs, which was subjected to the commitment to use nuclear materials for peaceful purposes will become effective on 15 January.

On the basis of technology supplied by the PUK and COMURHEX [Uranium Hexfluoride Company], an affiliate of Pechiney, NUCLEBRAS will build a plant in Resende, Rio de Janeiro state, for the transformation of uranium ore concentration into hexafluorine.

The installation, which is scheduled to begin operations in the last 6 months of 1983, will have an initial capacity of 500 tons of uranium per year, which could later be raised to 2,000 tons of uranium per year.

UPK will supply the process, the basic engineering and technical assistance in the training of personnel, construction and the start-up of the plant. Equipment which cannot be built in Brazil will be supplied by French industrialists.

Moreover, this contract is accompanied by a commercial agreement according to which COMURHEX will supply NUCLEBRAS with quantities of concentrates of uranium hexafluoride ore needed for the Brazilian electronuclear program for the period preceding the start-up of the plant.

These commitments will permit PUK to strengthen an already important collaboration with NUCLEBRAS in the uranium ore processing sector. In fact, NUCLEBRAS is building a concentration plant in Pocos de Caldas, Minas Gerais state, whose start-up is scheduled for the last 6 months of 1981 with PUK and other companies of the group.

NUCLEBRAS and PUK also are considering expanding their cooperation as a function of the development of Brazil's electronuclear program.

8145

CSO: 5100

BRIEFS

FIRST NUCLEAR PLANT--Rio de Janeiro, 29 Jan (AFP)--Engineer Alceu Braga Lopez has told the press here that the first Brazilian nuclear plant will begin operating in April at 30 percent of its intended output. He indicated that the test runs have been successfully concluded on this nuclear plant located in Itaorna, Angra dos Reis, 130 km from Rio de Janeiro. This powerplant has a Westinghouse reactor built in the United States which has an output of 626,000 kw. In addition to this nuclear powerplant, Brazil's nuclear program provides for the installation of eight other units which will have 1.3-million kw reactors each, according to an accord signed with the FRG in June 1975. The first two nuclear powerplants provided for in the FRG-Brazilian accord are being built in Angra dos Reis near the 626,000-kw plant which will be dedicated in April. These three nuclear plants will constitute the Adm Alvaro Alberto Nuclear Center. Two other nuclear powerplants will be located on the sea coast of Sao Paulo State, but the locations for the four other powerplants provided for in the FRG-Brazilian accord have not been chosen yet. [Excerpt] [PY301724 Paris AFP in Spanish 1945 GMT 29 Jan 81]

CSO: 3100

EDITORIAL CRITICIZES PAKISTAN'S NUCLEAR PROGRAM

Kabul KABUL NEW TIMES in English 25 Jan 81 p 2

[Editorial: "Pakistan Nuclear Plan a Threat to Peace"]

[Text]

The efforts made by Pakistan to build up its military strength has caused great concern in the countries of the region. According to reports reaching here Pakistan has stepped up its attempts to set up atomic weapon establishments in Pakistan in a move to produce its own nuclear weapons.

The Saudi Arabia has already offered Pakistan 800 million dollars aid to complete the nuclear programme undertaken by the government of General Zia-ul-Haq. This aid has been provided on the request of the Pakistan government and the agreement for this aid was concluded after a series of secret talks between the representatives of the two governments in one of the European countries.

The main purpose behind the visit of the Pakistan military ruler General Zia-ul-Haq to a number of Islamic countries such

as Kuwait, Turkey, Qatar, Jordan and the oil Emirates of Oman was in effect to draw military aids to win full military strength in the region.

Pakistan has already been promised to receive huge military aids from the United States of America. The Chinese arms and military equipment have been flowing into Pakistan as part of the military cooperation concluded between the two countries under the conspiracy and military designs and large strategic schemes of the US imperialism.

This is in direct contradiction to the claim made by the military government of Pakistan that the Pakistan has been seeking to normalise the situation in the region. In reality the Pakistan government spares no efforts to undermine the process of normalisation of the situation in the region. The efforts of the Pakistan authorities are

direct threat to the peace and security of the region and the normalisation of relation between the countries of this part of the world.

The people of Afghanistan and the peoples of the region and the world have been witnessing that in line with the wishes of the imperialists, led by the US and its allies, the Chinese Hegemonism and reaction of the region, the Pakistan authorities are busy training and arming mercenaries and bandits in the training camps and centres they have set up inside their soil to carry out subversive activities against the government and the innocent people of Afghanistan.

Admittedly, these provocative acts of the Pakistan ruling circles have undoubtedly deteriorated its relations with its neighbouring countries desiring to have good relations with Pakistan in a move to live in peace and good neighbourliness in the region.

What is clear is that the military activities of the Pakistan military regime have put the interests of the toiling and hard working people of Pakistan at stake. These activities

are carried out at a time when there is a great unrest in Pakistan. The people of Pakistan are suffering from the arbitrary rule of the Pakistan military regime. Justice, democracy and the people's rights and freedoms are jeopardised in Pakistan. The flagrant infringement by the Pakistani rulers upon the political freedoms of the people of Pakistan is taking greater momentum. Political opposition is harshly suppressed.

According to Pakistani periodicals at present hundreds of political prisoners languish in Pakistan jails with ruthless torture, hunger and hard labour. The Pakistan military regime has filled the Pakistan prisons with members and supporters of the Pakistan People's Party and other parties acting in opposition to the internal and external policy of General Zia-ul-Haq.

The economic situation in Pakistan is rapidly worsening. Unemployment is roaring up, leaving millions of Pakistani in struggle of life and death. The government officials are drawn deeper and deeper into corruption including bribery smuggling, embezzlement and what not.

A large portion of the Pakistan budget is spent on

military purposes causing panic and anxiety among the people.

Along the many social and economic problems which the people of Pakistan are encountered with the problem of the Afghan fugitives has added new dimension to the economic disparity and social ills of the people of Pakistan.

Thus it can clearly be said that the domestic and foreign policies pursued by the present military regime of Pakistan are neither in the interests of the people of Pakistan nor the peoples of the region who are badly in need of peace and security and normalisation of relations between the governments of the countries of the region.

It would be a constructive move if the military regime of Pakistan respond positively to the call of the present time for easing the mounting tension in the region and serving the toilers and poor people of Pakistan by devoting its efforts to their prosperity and well-being. The more the Pakistan government is drawn into imperialistic designs the more the peace and security of the region and the world will be endangered.

EGYPT

APPROVAL OF NONPROLIFERATION TREATY URGED

NC071342 Cairo Domestic Service in Arabic 1230 GMT 7 Feb 81

[Text] Deputy Prime Minister and Foreign Minister Kamal Hassan 'Ali made a statement at the Consultative Council meeting held today under Dr Subhi 'Abd al-Hakim. 'Ali called on the Consultative Council members to approve the nuclear nonproliferation treaty signed in London, Moscow and Washington on 1 July 1968.

In his statement 'Ali said that during the United Nations' latest session Israel was convinced of the importance of signing the treaty, particularly after the signing of the peace treaty by the two countries at Camp David.

'Ali said that Egypt found itself in need of ratifying the treaty so that it could catch up with scientific development by using nuclear substances in development plans.

'Ali said that approval by the Consultative Council would be in keeping with Egypt's supreme interests and [would] help to keep the area's countries from using nuclear weapons and encourage them to use nuclear energy for peaceful purposes.

The Consultative Council approved the report by the Committee on Arab and Foreign Affairs and National Security concerning the treaty. The report demanded that the Ministries of Foreign Affairs and Information continue their efforts to promote the importance of this pioneering step to implement the Egyptian proposal, submitted to the UN General Assembly last November, to make the Middle East a nuclear-free zone.

CSO: 5100

INTERNATIONAL AFFAIRS

BRIEFS

SPAIN-FRG NUCLEAR AGREEMENT--The Madrid company Union Electrica has just signed a purchase contract with a German company which is a subsidiary of Siemens for the construction of a nuclear power station to be known as Trillo-2, which will be located 150 km northeast of Madrid. Like the station already existing in Trillo, Guadalajara, the new station will have a capacity of 1,000 ~~mw~~ and it is expected to come into operation in 1987. [Text] [Madrid Domestic Service in Spanish 1800 GMT 26 Jan 81 LD]

CSO: 3100

FOR FIRST TIME NUCLEAR PLANTS SUPPLY MOST OF POWER NEEDS

Helsinki HELSINGIN SANOMAT in Finnish 7 Jan 81 p 19

[Article: "Majority of Winter Electric Needs from Nuclear Power Plants"]

[Text] The need for electricity during the coming winter will for the most part be covered by nuclear power plants, whose share now for the first time exceeds hydropower. During peak winter months the proportion of electricity produced by nuclear power will be approximately 27 percent and electricity produced by hydropower will be 24 percent. This winter all four nuclear power plants will be simultaneously producing electricity for the first time. The four plants have been operating at full capacity for approximately a week and have produced more than 33 percent of the need for electricity.

On Monday evening a defect was found in the second generator of Loviisa II, which caused the plant to produce only half of its full capacity on Tuesday.

Even late in the evening the power company did not know the kind of defect it was dealing with in the generator. Managing Director Alajoki stated that the power plant would be in full operation on Wednesday. The changing of a certain part would keep the other generator idle for a couple weeks. In the worst case the repair of the whole generator would take months.

According to the electric company the uninterrupted operation of the nuclear power plant would now be especially important since in addition to difficulties with coal, the water situation is worse than normal for this time of the year.

According to the electric company the total consumption of electricity increased nearly 40 billion kilowatt hours. It is estimated that the consumption for this year will be 41 billion kilowatt hours. This low rate of growth is the result of a colder than normal winter last year and a high level of usage by industry last year.

The exchange of electricity with foreign countries has shown a surplus during this winter season. Beginning with this year 4 billion kilowatt hours of electricity will be imported annually from the Soviet Union throughout the rest of this decade.

10576

CSO: 5100

FINLAND

NUCLEAR PLANTS WOULD SUPPLY WARM WATER TO HELSINKI

Helsinki HELSINGIN SANOMAT in Finnish 7 Jan 81 p 19

[Article: "Imatra Power Studies Delivery of Heat from Loviisa to Helsinki"]

[Text] Imatra Power has begun a study on the possibility of conducting remote heat from the nuclear power plants in Loviisa to the Helsinki area. A generator producing heat could be connected to either one of the nuclear power plants in Loviisa. The water heated by this generator would be pumped along pipes to serve the needs of the capital city area.

With today's energy prices this would already be nearly worthwhile. The rise in the cost of coal and oil would make the remote transfer of heat an economically justifiable venture. Chief Project Director Kalervo Nurminen of Imatra Power emphasized that this study is just in its initial stage at a luncheon of the Press Oil Club in Helsinki.

The project to transfer heat from the Kopparnas Power Plant to the Helsinki area was severely criticized in public for a reason that a distance of 50-60 kilometers would make production unprofitable. However, increased oil and coal costs have made the transfer of heat even over greater distances profitable. In Sweden it has been calculated that the distance could even be 120 kilometers.

According to Nurminen in waiting for a 1,000-megawatt power plant heat could perhaps be produced in Loviisa until sufficient loading is found for such a projected power plant.

Considering today's prices a 1,000-megawatt power plant would save an annual expenditure of foreign currency amounting to more than 500 million markkas.

10576
CSO: 5100

NETHERLANDS

CITIZENS POLLED ON STATIONING OF NUCLEAR WEAPONS

Amsterdam ELSEVIERS MAGAZINE in Dutch 6 Dec 80 pp 53-55

[Report on ELSEVIER/NIPO (Netherlands Institute for Public Opinion) Poll on Nuclear Armament by Dr F. A. Hoogendijk: "Hypocrisy and Nuclear Arms"; entire report printed in boldface]

[Text] The decision of whether or not nuclear arms should be placed in our country will play an important role in the next cabinet formation. [Labor Party Leader] Joop den Uyl has had to exert all his influence as primary candidate to keep the party council of the PvdA [Labor Party] from the standpoint that all nuclear arms must be removed from Dutch territory. But the big question is what standpoint the socialists will take when the election platform becomes definite in February.

Last week Den Uyl stressed the need to reject part of our nuclear tasks. But he is still not interested in the elimination of all nuclear tasks. He did however endorse the opinion of the synod of the Dutch Reformed Church that unilateral steps must be taken with respect to the existing nuclear task.

D'66 [Democrats '66] Member of the Chamber Brinkhorst hinted that it might possibly be unacceptable to the Democrats to sit together in a government with the socialists if the Labor Party ultimately should still want to remove all nuclear arms from the Netherlands. In any event it is already an established fact that the socialists are against the placing of 48 new nuclear missiles on Dutch soil. D'66 is taking an ambivalent standpoint on this, after a schism almost occurred within the party on this subject.

On 1 November the D'66 congress spoke against the placing of nuclear missiles in our country, but not under all circumstances. Brinkhorst in particular does not want to reject the placing unconditionally because he wants to retain some elbow room for our country at the international negotiation level. Parliamentary Group Leader Terlouw also has great difficulty with an unconditional "no" against the new cruise missiles.

In the draft election platform of the CDA [Christian Democratic Appeal] the possibility of either placing or not placing the new nuclear arms has been kept open. Nuclear pacifism is weaker in this circle than among the socialists. But the defense specialist of the CDA, Ton Frinkling, does make the statement that "after the Reformed Church took its position he has had the feeling that the CDA group

has increased and that a number of ecclesiastical authorities have seated themselves on the little green benches." In other words: also within the CDA, pressure is increasing to turn against nuclear arms. The VVD [People's Party for Freedom and Democracy] is actually the only large political party which considers these arms essential for the defense of Western Europe, thus also for our country.

At this stage we found it interesting to learn through a NIPO poll how the Dutch population thinks about nuclear arms. First we submitted the question:

It is to be hoped that nuclear arms will never be used. Do you think Western Europe should nevertheless have nuclear arms at its disposal or not?

The result of this gives the following picture:

48 Percent is of the opinion that Western Europe must have nuclear arms at its disposal; 46 percent thinks that Western Europe should not have nuclear arms; 6 percent did not have an opinion.

Thus a small majority is in favor of Western Europe being able to defend itself with nuclear arms. Divided into men and women, 53 percent of the men turn out to be in favor and 42 percent against, while 43 percent of the women are in favor of nuclear armament and 50 percent against.

Women find anything to do with nuclear arms more scary, and that is very understandable.

The second question reads:

Do you believe that modern nuclear arms should be present in the Netherlands also, or not?

The result of this question is:

	Yes %	No %	No Opinion %
All interviewees	39	53	7
Men	45	49	6
Women	34	58	8

When we compare the answers to the two questions, it appears that there is indeed a majority (48 percent) in our country in favor of nuclear arms in Europe, but that this majority decreases to a minority (39 percent) if these weapons must be placed in the Netherlands.

From this, the hypocrisy of 9 percent of our population, who want to keep their hands clean themselves but want to let our neighbors do the dirty work, is very clear.

From the poll it is also very clear that the division of opinion typically runs along left/right lines. The picture in the political parties looks as follows:

	Nuclear Arms in Western Europe			Nuclear Arms in the Netherlands		
	Yes %	No %	No Opinion %	Yes %	No %	No Opinion %
VVD	77	21	2	67	26	7
CDA	57	36	7	48	45	7
D'66	50	46	4	40	54	6
PvdA	39	55	6	31	64	5

The 9 percent hypocrites appear to be present in all 4 large political parties. This 9 percent is of the opinion that nuclear arms are unavoidable, but they must not be placed in one's own backyard, but rather in the neighbor's backyard.

Because the churches also concern themselves intensely with the nuclear arms questions, we also have looked into the position (and division) of their views on them in the various denominations. This provides the following picture:

	Nuclear Arms in Western Europe			Nuclear Arms in the Netherlands		
	Yes %	No %	No Opinion %	Yes %	No %	No Opinion %
Religious Denominations:						
Roman Catholic	48	47	5	39	55	6
Reformed	57	38	5	46	46	8
Calvinist	63	27	10	52	37	11
No Affiliation	40	55	5	32	61	6

Here also the 9 percent "clean hands" Netherlands are to be found again. A second remarkable piece of data is that the number of advocates and opponents is exactly the same in the Reformed Church. The synod decision to align itself with the campaign of the Inter-religious Peace Council (IKV) which advocates "nuclear arms out of the world, starting with the Netherlands" thus was made against the opinion of half of the membership of the Reformed Church. The reformed members themselves leave the church in the middle.

Viewed politically, it appears from the poll that Mr Den Uyl, with his standpoint to retain nuclear arms in our country, is uttering an opinion which is not shared by the majority of the Labor Party. On the contrary, 64 percent do not share his opinion, 31 percent do. It is clear that this could lead to a serious clash between the primary candidate and his following in February.

In our view Den Uyl is right when he characterizes the international situation as dangerous and threatening. At a gathering for the Socialist Youth the PvdA opposition leader said that besides an economic crisis, a cooling of detente is taking place. "In such a situation I am deeply convinced that withdrawal from NATO is indefensible." He was not applauded for that, but he is right nevertheless.

Next year the Dutch Government (of whatever political composition it may be) will have to decide on the nuclear task of our country. The current minister of defense, Dr P. B. R. de Geus, believes that the future nuclear task of our country must come up for discussion during the next cabinet formation, after the elections. A study on the possibility of decreasing the role of nuclear arms won't be ready until the end of 1981, however. The evaluation of this study will have to be made jointly by the NATO allies. From it, probably only one conclusion can be drawn. Then the question will come up whether NATO may require its allies to place nuclear arms on their territory. And whether that is a decision by the separate governments. We believe that the latter is the case. But if NATO unanimously should come to the conclusion that nuclear arms are essential in order to maintain the military balance in Western Europe, and the Netherlands should not allow nuclear arms on our soil, then we might have to accept the consequence from that of leaving NATO. Through the above poll we have shown the hypocrisy of a number of Netherlanders. But in the political arena the moment for a clear choice will occur one day. In December 1979 a cabinet crisis on this subject was barely avoided. Ultimately the government managed to pull the CDA dissidents over the line, although agreeing to the modernization of NATO nuclear arms, by letting the placing or not placing of them depend on the negotiations with the Soviets on disarmament. Meanwhile the Americans have initiated the production of 108 modern Pershing II and 464 Tomahawk cruise missiles for placing on Western European soil. If at the end of next year our country were to give the green light for placing in the Netherlands, this would mean that for the first time there would be missiles in our country with which the Soviet Union can be covered.

In the discussion on nuclear arms one often forgets that the modern American missiles are an answer to the long range Soviet SS-20 missiles. Until now the United Kingdom, the FRG and Italy have been in agreement with the placing of the modern missile systems. The Belgians have put in a proviso. They also made the placing dependent upon the disarmament discussion with the Soviets. For the rest, more pressure on Western Europe to strengthen our defense can be expected from the future American President Reagan than was the case in recent years. A government coalition composed of the CDA, VVD and D'66 might decide on placing the nuclear arms; we do not expect that under a Den Uyl cabinet. We suspect that the hypocrisy in our country with respect to nuclear armament will increase even more.

Unfortunately the attitude that our allies should serve as our cat's-paw is gaining more and more ground.

8700
CSO: 5100

END

END OF

FICHE

DATE FILMED

Feb. 23 1981



